Physics Department List of Job Risk Assessments

Job	Description	Hazards	Priority	Reason	JRA Number
Vehicle Use	Vehicle use for moving materials and personnel	Roadway accidents	High	Continuing concern expressed by workers; potentially high consequence for accidents.	**PO-JRA-001** **Completed**
Lifting Objects	Human lifting	Muscular and skeletal injury; being struck by dropped object; falls on same or lower level	High	Recent back injury cases; frequent activity for many workers.	**PO-JRA-004** **Completed**
General Office Work	General office work throughout the Department.	Repetitive motion; eye strain; being struck against object	Medium	Recent back and repetitive stress injuries, and frequency of performance increase risk.	**PO-JRA-005** **Completed**
Electrical Work – Routine	<300 V, Class A and below	Electrical shock; injury from reflex	Medium	Hazard experienced daily by many workers. Controls have been effective. Recent shock incidents raise level of concern.	**PO-JRA-006** **Completed**
Electrical Work – High Energy	>300 V, predominately low current DC, Class B and above	Electrocution and electrical shock; injury from reflex	Medium	Hazard experienced daily by many workers. Controls have been effective. Recent shock incidents raise level of concern.	**PO-JRA-007** **Completed**
Machine Shop Work	Various shops maintained by research groups. Operation of lathes, drill presses, etc.	Overexertion; Repetitive motion; eye strain; being caught or compressed by machinery; being struck by object; cut by sharp object	Medium	OSHA violations of machine guarding and mounting corrected; some housekeeping problems.	**PO-JRA-011** **Completed**
General Compressed Gas Work	Storage and use throughout Department, including brazing, welding, and gas for detectors	Struck by object; ODH/toxicity/flammability concerns; overexertion	Medium	OSHA violations have been corrected; quantity and variety on hand raises concern level.	**PO-JRA-012** **Completed**
Work with Hazardous Materials	Use of lead for shielding, Be for windows and detector substrates, work with mercury	Overexertion; material toxicity; chemical sensitivity	Medium	Controls and PPE are used for work; all Be articles are reviewed annually on BURF; CMS and MSDS used as inventory and information to aid in material use.	**PO-JRA-013** **Completed**
Satellite and 90-Day Area Operation	Immediate waste collection point for generating processes	Chemical reactions; toxicity; fire; chemical sensitivity	Medium	Many recent RCRA violations; generators do not comprehend severity of incorrect actions and choose what they view as proper rather than following regulations.	**PO-JRA-014** **Completed**

Job	Description	Hazards	Priority	Reason	JRA Number
Working with Lasers	Laser work throughout Department	Eye injury; skin burns; fires; chemical sensitivity	Medium	Laser exposure controlled by enclosure, room interlocks, PPE, and SOPs. Recent BNL injury raises level of concern.	**PO-JRA-015** **Completed**
General Cryogenic Work	Filling dewars and cryostats with LN_2 and LHe; testing of components intended for cryogenic operation; cold fitting of mechanical parts	Contact with temperature; ODH; being struck by object; falls to lower level	Medium	PPE is used effectively, ODH concerns are addressed, but workers underestimate hazards, some work not fully reviewed.	**PO-JRA-008** **Completed**
Wire Chamber Construction and Characterization	Wire winding machines, epoxy use, soldering, exposed high voltage low current contacts, flammable gas use	Electrical shock; reflex injury; fire; contact with temperature; chemical sensitivity; being struck by object; eye strain; repetitive motion	Medium	Design of chambers often requires exposed HV contacts; flammable gases required, but flow rate is low; controls are effective.	**PO-JRA-021** **Completed**
Hazardous Chemical Work	Work with carcinogens, listed chemicals, Hg, peroxidizable chemicals, pyrophoric chemicals, oxidizers, etc.	Chemical toxicity; chemical sensitivity; chemical reaction; fire	Medium	Work done in hoods as a control; additional controls for environmental and BNL special concerns where needed.	**PO-JRA-010** **Completed**
Thermal Chemical Synthesis, Oven, and Furnace Operations	Use of ovens and tube furnaces, to produce samples or novel compounds and nanostructures, heat treating and drying materials	Contact with temperature; chemical toxicity; chemical sensitivity; chemical reaction; fire; electrical shock	Medium	Burn hazards are controlled by oven design and PPE; chemical hazards controlled by work in hood where relevant.	**PO-JRA-018** **Completed**
Hand Tool Use	Use of non-powered, plug in, and battery powered hand-held tools	Being struck by object; struck against object; cuts by sharp object; repetitive motion; falls on same level	Low	Hazard experienced daily by many workers. Controls have been effective.	**PO-JRA-016** **Completed**
Electrical & Electronic Shop Work	Assembly of circuit boards, enclosures, mounting hardware, use of hand and bench tools, soldering, wire wrapping, cleaning agents, testing equipment	Being struck by object; struck against object; cuts by sharp object; repetitive motion; falls on same level; contact with temperature; chemical sensitivity; fire	Low	Hazard experienced daily by many workers. Controls have been effective.	**PO-JRA-009** **Completed**
Routine Chemical Use	Use of typical chemicals as glues, cleaning agents or solvents, such as epoxy, alcohol, acetone, etc.	Chemical toxicity; chemical sensitivity; chemical reaction; fire	Low	Hazard experienced daily by many workers. Controls have been effective.	**PO-JRA-017** **Completed**

Job	Description	Hazards	Priority	Reason	JRA Number
Radioactive Source Use	Use of predominately sealed sources	Radiation exposure	Low	Full, annually verified inventory exists; sources are mostly low level; few non-windowed sources in use; semi-annual leak checks and non-exempt source inventory.	**PO-JRA-020** **Completed**
Radiation Generating Device Use	Open and fully enclosed x-ray diffraction and analysis machines	Radiation exposure	Low	Devices are registered and controlled, operator and user training is provided. The open RGD has low radiation levels in the beam area. Interlocks are maintained and tested according to schedule.	**PO-JRA-019** **Completed**
Scintillation Detector Construction and Characterization	Polishing, gluing, heat forming, testing, PMT use, high voltage, radioactive source use	Chemical toxicity; chemical sensitivity; chemical reaction; fire; electrical shock; reflex injury; radiation exposure; contact with temperature; repetitive motion	Low	Hazard experienced daily by many workers. Controls have been effective.	**PO-JRA-002** **Completed**
Solid-state Detector Construction and Characterization	Low voltage DC, clean & dry work areas, radioactive source use, some Be use	Electrical shock; reflex injury; radiation exposure; chemical sensitivity; chemical toxicity	Low	Hazard experienced daily by many workers. Controls have been effective.	**PO-JRA-022** **Completed**
Vacuum System Operation	Operation and maintenance of vacuum pumps and chambers for various purposes	Overexertion; being caught or compressed by machinery	Low	Hazard experienced daily by many workers. Controls have been effective.	**PO-JRA-023** **Completed**
Magnetic Field and Non-ionizing Radiation Work	Use of magnets with field exposures exceeding 5 G; RF and microwave used for experiments, cleaning	Non-ionizing radiation exposure; falls to lower levels; being struck by object	Low	Effective reviews, posting and controls, radiation levels measured, and controls are in place.	**PO-JRA-024** **Completed**
ATF Startup Procedure	Following ATF startup procedure	Walking, electrical shock	Low	Routine task	**PO-JRA-025** **Completed**
Dispersible Radioactive Material Use	The transport, use and disposal of dispersible radioactive materials	Radioactive contamination	Low	Seldom performed, detailed RWP exists	**PO-JRA-026** **Completed**